

Appl No. 10/029,511
Art Unit : 2821

IN THE CLAIMS

Please **cancel** claims 11-15 without prejudice.

Please **amend** the claims as follows:

1. (Currently amended) A deployable structure comprising;

a support;

at least one structural element, the at least one structural element mechanically attached to the support, wherein the at least one structural element comprises:

a continuous wire , wherein the continuous wire is adapted to form a plurality of foldable sections; and wherein the continuous wire is adapted to form at least one torsion spring between the plurality of foldable sections; and

at least one latching mechanism assembly, the at least one latching mechanism assembly adapted for containing the at least one structural element in a non-deployed state.
2. (Currently amended) A deployable structure as in claim 1 wherein the at least one structural element comprises a radio antenna adapted to transmit, receive, or transceive radio frequency signals.
3. (Original) A deployable structure as in claim 1 wherein the radio antenna comprises a horizontally polarized antenna.

4. (Original) A deployable structure as in claim 1 wherein the radio antenna comprises a vertically polarized antenna.

5. (Currently amended) A deployable structure ~~as in claim 1~~ comprising:

a support;

at least one structural element, the at least one structural element mechanically attached to the support, wherein the structural element comprises:

a continuous wire, wherein the continuous wire is adapted to form a plurality of foldable sections; and wherein the continuous wire is adapted to form at least one torsion spring between the plurality of foldable sections; and wherein the at least one foldable section comprises a transducer array; and

at least one latching mechanism assembly, the at least one latching mechanism assembly adapted for containing the at least one structural element in a non-deployed state.

6. (Original) A deployable structure as in claim 5 wherein the transducer array comprises at least one solar energy transducer.

7. (Original) A deployable structure as in claim 5 wherein the transducer array comprises at least one acoustic transducer.

8. (Currently amended) A deployable structure ~~as in claim 1~~ comprising:

a support;

at least one structural element, the at least one structural element mechanically attached to the support, wherein the structural element comprises:

a continuous wire, wherein the continuous wire is adapted to form a plurality of foldable sections; and wherein the continuous wire is adapted to form at least one torsion spring between the plurality of foldable sections; and

at least one latching mechanism assembly, the at least one latching mechanism assembly adapted for containing the at least one structural element in a non-deployed state, and wherein the at least one latching mechanism assembly comprises:

a shape memory device, the shape memory device electrically connectable to a first voltage potential;

a strap pin, the strap pin electrically conductive and mechanically attached to the shape memory device; and

a strapping wire, the strapping wire electrically and mechanically connectable to the strap pin and to a second voltage potential.

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9. (Original) A deployable structure as in claim 8 wherein the shape memory device comprises a thermally actuated shape memory device.
10. (Original) A deployable structure as in claim 9 wherein the thermally actuated shape memory device comprises a contracting shape memory device.
11. (Canceled)
12. (Canceled)
13. (Canceled)
14. (Canceled)
15. (Canceled)
16. (Currently amended) A self-erecting turnstile antenna ~~as in claim 15~~
comprising:

a supporting device;

a plurality of antenna elements connected to the supporting device,
wherein the plurality of antenna elements each comprise:

a continuous wire, having:

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a first uniform rectangular section, wherein the first uniform rectangular section is mechanically attached to the support device by two 90-degree torsion springs; and

a second uniform rectangular section, wherein the second uniform rectangular section is mechanically coupled to the first uniform rectangular section by two 180-degree torsion springs-and

at least one latching mechanism assembly, the at least one latching mechanism assembly connected to the supporting device.

17. (Original) A self-erecting turnstile antenna as in claim 16 wherein the two 90 degree torsion springs are comprised of the continuous wire.
18. (Original) A self-erecting turnstile antenna as in claim 16 wherein the two 180 degree torsion springs are comprised of the continuous wire.
19. (Currently amended) A self-erecting turnstile antenna as in claim 16 ~~15~~ wherein the at least one latching mechanism assembly comprises:
 - a strapping wire;
 - a strap pin, the strap pin connectable to the strapping wire; and
 - a thermally actuated memory device, the thermally actuated memory device electrically connected to the strap pin.

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Please **add** the following new claims:

20. (New) A deployable structure for storage and deployment from a support device comprising:

at least one structural element, the at least one structural element mechanically attached to the support, wherein the at least one structural element comprises:

a continuous wire , wherein the continuous wire is adapted to form a plurality of foldable sections; and wherein the continuous wire is adapted to form at least one torsion spring between the plurality of foldable sections; and

at least one latching mechanism assembly, the at least one latching mechanism assembly adapted for containing the at least one structural element in a non-deployed state.

21. (New) A deployable structure as in claim 20, further comprising an additional torsion spring attaching the at least one structural element to the support.

22. (New) A deployable structure as in claim 20, wherein the at least one torsion spring between said plurality of foldable sections has a range of movement from 0 to 180 degrees.

23. (New) A deployable structure as in claim 21, wherein the additional torsion spring has a range of movement from 0 to 90 degrees.

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24. (New) A deployable structure as in claim 24 wherein the at least one structural element comprises a radio antenna adapted to transmit, receive, or transceive radio frequency signals.